VOLUME 2: CHAPTER 8 – CULTURAL HERITAGE

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8. CULTURAL HERITAGE

8.1 Introduction

8.1.1 This chapter considers the potential effects of the Proposed Development on archaeology and cultural heritage interests (historic environment sites and features, archaeology, and built heritage), hereafter referred to as 'heritage assets'. The assessment includes the potential effects upon historic environment sites and features, archaeology and built heritage. The evaluation of the baseline environment has been made through a combination of desk-based study, field surveys and consultation.

8.1.2 The specific objectives of the study are as follows:

- identify the cultural heritage baseline within the Site;
- assess the Site in terms of its archaeological potential;
- describe how consultation has informed the scope of the assessment;
- identify any mitigation measures proposed to address likely impacts upon heritage assets; and
- assess the residual effects remaining following implementation of mitigation (if required).

8.1.3 This chapter should be read in conjunction with **Chapter 3: Description of the Proposed Development** for full details of the Proposed Development and **Chapter 7: Landscape and Visual Impact** Assessment.

8.1.4 This assessment was prepared and overseen by experienced archaeological and cultural heritage consultants with appropriate memberships of the Chartered Institute for Archaeologists (CIfA), and experience of cultural heritage assessment in the context of wind farm, grid, and mixed-use developments. Field surveys and data collection were undertaken by archaeologists with extensive experience and training in undertaking archaeological surveys for grid and renewable energy projects. Further details can be found in **Chapter 2: The EIA Report**.

8.1.5 This chapter is supported by the following figures in **Volume 3**:

- **Figure 8.1 Cultural Heritage: Inner Study Area;**
- **Figure 8.2 Designated Cultural Heritage: Outer Study Area (Bare-Earth ZTV);** and
- **Figure 8.3 Designated Cultural Heritage: Outer Study Area (With-Screening ZTV)**

8.1.6 The following appendices in **Volume 4** are also referred to throughout the chapter:

- **Appendix 8.1 Cultural Heritage Assets in the Inner Study Area;**
- **Appendix 8.2 Designated Cultural Heritage Assets in the Outer Study Area;**
- **Appendix 8.3**: **Designated Heritage Assets within the Outer Study Area with Predicted 'with-screening' Visibility of the Proposed Development**; and
- **Appendix 8.4**: **Designated Heritage Assets within Urban Settings or Townscapes.**

8.1.7 The following terminology will be referred to throughout this chapter:

- Site: all land within the planning application (red line) boundary (**Figure 1.1: Site Location**);
- Proposed Development: The infrastructure including the platform, bays, control buildings, access tracks, drainage and landscape features and temporary construction compounds (see **Chapter 3: Description of the Proposed Development**);
- Cist: a compact, stone-built tomb or coffin in which human remains are interred, typically associated with prehistoric burial practices;
- Broch: a stone-built tower combining features of forts, fortified houses, and status symbols, uniquely associated with Scottish prehistory, particularly the Iron Age; and
- Souterrain: an underground passage or chamber, often lined with wood or stone, commonly understood as Iron Age food stores or refuges.

8.2 Scope of the Assessment

Effects Assessed in Full

8.2.1 The EIA Scoping process, baseline conditions, and professional judgement have identified the following direct, indirect, and cumulative effects for detailed assessment:

- direct effects during construction on heritage assets within the Site;
- setting effects on designated heritage assets within 3 km of the Site resulting from the operation of the Proposed Development;
- cumulative effects during construction on cultural heritage; and
- cumulative effects during operation on cultural heritage.

8.2.2 With embedded and applied mitigation, many potential significant direct and cumulative effects on cultural heritage have been and can be avoided or reduced; however, potential significant effects could occur where impacts upon setting and direct impacts upon buried archaeology are unavoidable.

Effects Scoped Out

8.2.3 On the basis of the desk-based assessment, professional judgement of the assessment team, experience from other relevant projects, policy guidance or standards, and feedback received from consultees, the following effects have been 'scoped out' of detailed assessment, as proposed in the EIA Scoping Report:

- Direct construction effects on heritage assets outwith the Site (known as the Inner Study Area – see **Paragraph 8.2.4**). With the exception of the proposed laybys (see **Chapter 3: Description of the Proposed Development**) there will be no construction works associated with the Proposed Development that will take place outwith the Site.
- Indirect effects on standing archaeological remains or structures and buried archaeological remains or deposits. The Proposed Development is unlikely to give rise to significant adverse effects through hydrological changes or from vibration and seismic events (e.g. blasting).
- Temporary setting effects on heritage assets resulting from construction activities. Construction activities would be temporary, resulting in short-term / minor effects on heritage assets in the Outer Study Area (see **Paragraph 8.2.4)** and would have no permanent effects.
- Assessment of the effect of the Proposed Development on the settings of listed buildings in urban settings. These all have localised townscape settings and relationships with other historic buildings around them and the Proposed Development would not have a significant effect on the settings of such designations.
- Assessment of direct operational effects from maintenance activities. As a consequence of the design and pre-construction mitigation there are no heritage assets likely to receive a direct effect during operation of the Proposed Development and any required maintenance or replacement works would use the proposed access and infrastructure to facilitate such works.

Study Area

8.2.4 Two study areas have been employed for the cultural heritage assessment:

8.2.5 Inner Study Area (see **Figure 8.1: Cultural Heritage: Inner Study Area** and **Appendix 8.1: Cultural Heritage Assets in the Inner Study Area**): the area of the Site has been used to identify any heritage assets (including buried archaeology) arising from construction of the Proposed Development. Consideration has also been given to those heritage assets that lie in close proximity to the proposed construction route (Moatmill Road and U322, Emmock Road) (see **Figure 12.1: Construction Access**) to identify any heritage assets that could potentially be affected by proposed laybys; and

8.2.6 Outer Study Area (see **Figure 8.2: Designated Cultural Heritage: Outer Study Area (Bare-Earth ZTV)** and **Appendix 8.2: Designated Cultural Heritage Assets in the Outer Study Area)**: an area extending 3 km from the Site. The Outer Study has been used, in combination with the Proposed Development Zone of Theoretical Visibility (ZTV) bare-earth (**Figure 8.2: Designated Cultural Heritage: Outer Study Area (Bare-Earth ZTV)** and with-

screening (**Figure 8.3: Designated Cultural Heritage: Outer Study Area (With Screening ZTV)** models, to identify heritage assets with statutory or non-statutory designations that could have their settings affected by the Proposed Development (including cumulative effects). The Outer Study Area extent was agreed with HES and ACAS as being acceptable (see **Table 8.1: Summary of Consultation** and **Appendix 6.2: Scoping Opinion**). Heritage assets identified as having settings sensitive to change are included in the assessment, even where no visibility is predicted from the asset, as views towards or across such sites may be important aspects of the settings. Consideration has also been given to designated heritage assets beyond 3 km where these have been raised by statutory consultees, or where, based on appraisal of the ZTVs, long-distance views and intervisibility are considered to be important aspects of an asset's setting.

8.3 Assessment Methodology

Legislation, Policy, and Guidance

8.3.1 This assessment is carried out in accordance with the principles contained within the following legislation, policies, and guidance:

Legislation

8.3.2 Legislation governing the investigation, preservation, and recording of ancient monuments, listed buildings, and other areas of special architectural and/or historic interest.

- The Ancient Monuments and Archaeological Areas Act 1979;
- Planning (listed buildings and conservation areas) (Scotland) Act 1997; and
- Town and Country Planning (Environmental Impact Assessment) (Scotland) 2017 (the EIA Regulations).

Policy

8.3.3 Policy documents to direct decision-making affecting the historic environment. This policy is relevant to a wide range of decision-making processes, including the determination of planning applications, and is applicable at both national and local levels.

- National Planning Framework for Scotland 4 (NPF4) (Scottish Government);
- Angus Local Development Plan - Policy 8 - Built and Cultural Heritage;
- Historic Environment Policy for Scotland (HEPS) (published 2019, finalised amended 2020); and
- Planning Advice Note 2/2011: Planning and Archaeology (PAN2/2011).

Guidance

8.3.4 Industry guidance which sets out best-practice working methods for those investigating, advising on, and categorising the historic environment.

- Standards and guidance for Historic Environment Desk-Based Assessment (CIfA, 2014; updated 2020);
- Code of Conduct: professional ethics in archaeology (CIfA, 2014; revised 2021);
- Designation Policy and Selection Guidance (HES, 2019);
- Managing Change in the Historic Environment: Setting (HES, 2016);
- Environmental Impact Assessment Handbook (Scottish Natural Heritage (SNH & HES, 2018); and
- Principles of Cultural Heritage Assessment (IEMA, 2021).

Consultation

8.3.5 In undertaking the assessment, consideration has been given to the consultation responses which have been undertaken as detailed in **Table 8.1: Summary of Consultation.**

Table 8.1: Summary of Consultation

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
Historic Environment Scotland (HES) 16th March 2023	Pre-Application Consultation Meeting	Noted concerns with the Proposed Development particularly its potential impact on the setting on Balkemback Stone Circle (SM 2868) and Martin's Stone, Cross Slab (SM 159). Recommended that consideration should be given to landscaping and other mitigation that could reduce the impact on the setting of the stone circle and other scheduled monuments in the area.	Assessment of the potential impacts of the Proposed Development on Balkemback Stone Circle (SM 2868) and Martin's Stone, Cross Slab (SM 159) are provided in **Appendix 8.3: Designated Heritage Assets within the Outer Study Area with Predicted 'with-screening' Visibility of the Proposed Development)** and Section 8.6. Landscaping and planting mitigation measures have been adopted to both provide close-proximity screening in all directions, and to integrate the Proposed Development into the wider agricultural landscape (see Section 8.4.22).
		Advised that cumulative impacts on the setting of Balkemback Stone Circle (SM 2868) and Martin's Stone. Cross Slab (SM 159) should be a key consideration.	Cumulative impacts are assessed in Section 8.9.
HES 9th May 2024	Consultation Response	Confirmed that they are satisfied with the proposed study area.	The study areas used for the assessment are set out in Section 8.2.
		Confirmed that they are generally content with the proposed cultural heritage viewpoints.	Assessment of the potential impacts of the Proposed Development on heritage assets within the Outer Study Area is provided in **Appendix 8.2: Designated Cultural Heritage Assets in the Outer Study Area**, **Appendix 8.3: Designated Heritage Assets within the Outer Study Area with Predicted 'with-screening' Visibility of the Proposed Development)**, and Section 8.6.
HES 29th July 2024	Scoping Response	Confirmed that they are content with the proposed cultural heritage visualisations.	Cultural heritage visualisations included in the EIAR are provided in Figures 8.4 to 8.6 (VPs 1 to 3a-d).

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
		Proposed the following designated heritage assets for possible detailed assessment: • South Balluderon Farm, Steading (LB 17458) • Kirkton of Tealing, Former Parish Church (LB 17450) • Balkemback Cottages, Stone Circle (SM 2868) • Martin's Stone, Cross Slab, Balkello (SM 159) • Balkello, Standing Stone (SM 6145) • Tealing, Dovecot (SM 90298) • Tealing, Souterrain (SM 90299) • Craig Hill, Fort and Broch (SM 3038) • Powrie Castle, Powrie (SM 2871)	The bare-earth and with-screening ZTVs (**Figure 8.3 Designated Cultural Heritage: Outer Study Area (Bare-Earth ZTV)**) and **Figure 8.3 Designated Cultural Heritage: Outer Study Area (With-Screening ZTV)**) indicate that there is no predicted visibility of the Proposed Development from • Kirkton of Tealing, Former Parish Church (LB 17450) • Balkello, Standing Stone (SM 6145) • Tealing, Dovecot (SM 90298) • Tealing, Souterrain (SM 90299) • Craig Hill, Fort and Broch (SM 3038) • Powrie Castle, Powrie (SM 2871) and these heritage assets are not discussed further. Assessment of the potential impacts on the Proposed Development on the settings of the following designated heritage assets is provided in **Appendix 8.3: Designated Heritage Assets within the Outer Study Area with Predicted 'with-screening' Visibility of the Proposed Development)** and Section 8.6. • South Balluderon Farm, Steading (LB 17458); • Balkemback Cottages, Stone Circle (SM 2868); • Martin's Stone, Cross Slab, Balkello (SM 159); and • Craig Hill, Fort and Broch (SM 3038).
		Recommended that an appropriate cultural heritage assessment methodology be used when assessing possible impacts upon heritage assets resulting from the Proposed Development.	The methodology and terminology outlined in Appendix 1 of the EIA Handbook (SNH & HES 2018[1]) has been adopted for this assessment.
Aberdeenshire Council Archaeology Service (ACAS) 8th March 2024	Pre-Application Response	Agreed that there is a moderate to high potential for prehistoric remains to survive within the Site. Confirmed that archaeological investigations or mitigation will not be required pre-submission of	Mitigation measures to reduce or offset the predicted effects are set out in Section 8.5.

[1] Scottish Natural Heritage (SNH & HES) 2018 *Environmental Impact Assessment Handbook*.

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
		the EIAR. Instead, this aspect of the archaeological works can be undertaken as post determination mitigation should the Proposed Development be consented.	
		Requested that the EIA includes an assessment as to whether geophysical survey techniques would be an option for the Site, taking into account local geological and soil conditions.	An assessment of the geophysical survey potential of the Site is provided in Section 8.4.
ACAS 9th May 2024	Other (email correspondence)	Confirmed that they were content with the proposed study area. and proposed cultural heritage viewpoints.	The study areas used for the assessment are set out in Section 8.2.

Desk Based Research and Data Sources

8.3.6 A detailed desk-based assessment was conducted for the Inner Study Area using a range of documentary, archival, and bibliographic sources. Up to date information was obtained from appropriate sources on the locations and extents of heritage assets with statutory protection and non-statutory designations within the Inner Study Area. Sources included:

- Angus Historic Environment Record (HER): a digital database extract for all heritage assets within the Inner Study Area was obtained initially in April 2024, ahead of desk-based assessment; updated data was then acquired in September 2024 and checked against the original data;
- National Record of the Historic Environment (NRHE) Scotland online database (Canmore[2]): for any information on heritage assets within the Inner Study Area additional to that contained in the HER;
- HES Spatial Data Warehouse[3]: provided up-to-date data on the locations and extents of scheduled monuments, listed buildings, conservation areas, inventory gardens and designed landscapes, and inventory historic battlefields;
- Historic Land-Use Assessment Data for Scotland (HLAmap[4]): for information on the historic land-use character of the Inner Study Area;
- Map Library of the National Library of Scotland: for Ordnance Survey maps (principally 1st and 2nd editions) and other historic maps resources;
- Aerial photography and satellite imagery (Google Earth, Bing maps, ESRI World Imagery): for the identification of sites and features potentially of historic environment value not recorded elsewhere or shown on historic maps;
- Relevant bibliographic references cited in the HER/NHRE records: for background and historic information; and
- The bare-earth' and 'with-screening' Zone of Theoretical Visibility (ZTV) maps (see **Figure 8.2: Designated Cultural Heritage: Outer Study Area (Bare-Earth ZTV**) and **Figure 8.3: Designated Cultural Heritage: Outer Study Area (With-Screening ZTV**) generated for the Proposed Development: utilised to identify those designated heritage assets in the Outer Study Area that would have theoretical visibility of the Proposed Development. Further explanation of the methods used in generating these ZTVs is included within **Chapter 7: Landscape and Visual Impact**.

[2] HES (2024) Historic Environment Scotland's National Record of Historic Environment (NRHE) database (Canmore), available at: https://pastmap.org.uk/map [Accessed July-September 2024].
[3] HES (2024) Historic Environment Scotland (HES) GIS downloader, available at http://portal.historicenvironment.scot/spatialdownloads [Accessed July-September 2024].
[4] HES (2024) Historic Land-Use Assessment Data for Scotland (HLAmap), available at http://hlamap.org.uk [Accessed July-September 2024].

Field Survey

8.3.7 No field survey has been undertaken to inform this assessment as the Inner Study Area was subject to a walkover survey in 2023 (Sneddon 2023). The assessment of potential direct impacts in this chapter relies upon the results of that previous work, which is considered sufficiently recent and accurate to assess the potential direct impacts arising from the Proposed Development.

8.3.8 Site visits, to assess the character and sensitivity of the setting of heritage assets in the Outer Study Area were also undertaken on the 21 February 2023. The site visits focused on those heritage assets with the most potential to receive significant effects on their settings (i.e. those closest to the Proposed Development and those considered, on preliminary analysis, to potentially be the most sensitive to change within their settings, including assets identified by consultees as requiring assessment).

Assessing Significance

8.3.9 The effects of the Proposed Development on heritage assets have been assessed on the basis of their type (direct construction effects, effects on setting, and cumulative impacts) and nature (adverse or beneficial). The assessment takes into account the value/sensitivity of the heritage asset, its setting, and the magnitude of the predicted impact. Adverse and beneficial effects are understood as follows:

- adverse effects are those that detract from or reduce the cultural significance or special interest of heritage assets; and
- beneficial effects are those that preserve, enhance, or better reveal the cultural significance or special interest of heritage assets.

8.3.10 The assessment of significance of effects has been undertaken using two key criteria: the sensitivity of the heritage asset and the magnitude of the predicted impact, which measures the degree of change to the baseline condition of an asset resulting from the Proposed Development.

Criteria for Assigning Sensitivity to Heritage Assets

8.3.11 Heritage assets are given weight through the designation process. Designation ensures that sites and places are recognised by law through the planning system and other regulatory processes. The level of protection and how a site or place is managed varies depending on the type of designation and the laws and policies that apply to it (HES 2019[5]).

8.3.12 **Table 8.2: Sensitivity of Heritage Assets** summarises the relative sensitivity of key heritage assets and their settings, as defined by the HES (2019) 'Designation Policy and Selection Guidance' document. Only those heritage assets relevant to the Proposed Development are considered here (excluding, in this instance, World Heritage Sites and Marine Resources because none are present within the Outer Study Area).

Table 8.2: Sensitivity of Heritage Assets

Sensitivity of Impact	Definition/Criteria
High	Assets valued at an international or national level, including: • Scheduled monuments; • Category A listed buildings; • Inventory gardens and designed landscapes; • Inventory historic battlefields; and • Non-designated assets that meet the relevant criteria for designations.
Medium	Assets valued at a regional level, including: • Archaeological sites and areas that have regional value (contributing to the aims of regional research frameworks); • Category B listed buildings; and

[5] HES (2019) 'Designation Policy and Selection Guidance', Edinburgh.

Sensitivity of Impact	Definition/Criteria
	• Conservation areas.
Low	Assets valued at a local level, including: • Archaeological sites that have local heritage value; • Category C listed buildings; and • Unlisted historic buildings and townscapes with local (vernacular) characteristics.
Negligible	Assets of little or no intrinsic heritage value, including: • Artefact find-spots (where the artefacts are no longer in situ and where their provenance is uncertain); and • Poorly preserved examples of particular types of features (e.g. quarried and gravel pits, dilapidated sheepfolds, etc.)

8.3.13 The magnitude of impact (adverse or beneficial) will be assessed in the categories high, medium, low, and negligible, as defined in **Table 8.3: Magnitude of Impact** and set out in Appendix 1 of the EIA Handbook (SNH & HES 2018[6]).

Table 8.3: Magnitude of Impact

Magnitude of Impact	Definition/Criteria	
	Adverse	Beneficial
High	Changes to the fabric or setting of a heritage asset resulting in the complete or near complete loss of the asset's cultural significance, such that it may no longer be considered a heritage asset.	Preservation of a heritage asset in situ where it would otherwise be completely or almost completely lost in the do-nothing scenario.
Medium	Changes to those elements of the fabric or setting of a heritage asset that contribute to its cultural significance such that this quality is substantially altered.	Changes to key elements of a heritage asset's fabric or setting, resulting in its cultural significance being preserved (where this would otherwise be lost) or restored.
Low	Changes to those elements of the fabric or setting of a heritage asset that contribute to its cultural significance such that this quality is slightly altered.	Changes that result in elements of a heritage asset's fabric or setting detracting from its cultural significance being removed.
Negligible	Changes to fabric or setting of a heritage asset that leave its cultural significance unchanged and do not affect how it is understood, appreciated, and experienced.	

Assessment Effects on Setting

8.3.14 HES's guidance document, 'Managing Change in the Historic Environment: Setting[7]', notes that:

"*Setting can be important to the way in which historic structures or places are understood, appreciated and experienced. It can often be integral to a historic asset's cultural significance*."

"*Setting often extends beyond the property boundary of 'curtilage' of an individual historic asset into a broader landscape context.*"

8.3.15 The HES guidance also advises that:

"*If proposed development is likely to affect the setting of a key historic asset, an objective written assessment should be prepared by the applicant to inform the decision-making process. The conclusions should take into account the*

[6] SNH & HES (2018) *Environmental Impact Assessment Handbook*.
[7] HES (2016) *Managing Change in the Historic Environment: Setting*.

significance of the asset and its setting and attempt to quantify the extent of any impact. The methodology and level of information should be tailored to the circumstances of each case".

8.3.16 The HES guidance recommends that there are three stages in assessing the impact of a development on the setting of a historic asset or place:

- *Stage 1: identify the historic assets that might be affected by the Proposed Development;*
- *Stage 2: define and analyse the setting by establishing how the surroundings contribute to the ways in which the historic asset or place is understood, appreciated, and experienced; and*
- *Stage 3: evaluate the potential impact of the proposed changes on the setting, and the extent to which any negative impacts can be mitigated*.

8.3.17 The EIA Handbook (SNH & HES 2018) Appendix 1, paragraph 43 advises that:

"*When considering setting impacts, visual change should not be equated directly with adverse impact. Rather the impact should be assessed with reference to the degree that the proposal affects those aspects of setting that contribute to the asset's cultural significance*."

8.3.18 Following these recommendations, the bare-earth and with-screening ZTVs (**Figure 8.2: Designated Cultural Heritage: Outer Study Area (Bare-Earth ZTV)** and **Figure 8.3: Designated Cultural Heritage: Outer Study Area (With-Screening ZTV)**) for the Proposed Development have been used to identify those heritage assets from which there could be theoretical visibility of one or more elements of the Proposed Development, and the degree of theoretical visibility.

Significance of Effect

8.3.19 The sensitivity of the asset (**Table 8.2: Sensitivity of Heritage Assets**) and the magnitude of the predicted impact (**Table 8.3: Magnitude of Impact**) has been used to inform an assessment of the significance of the effect (direct effect, or effects on setting), following the criteria provided in **Table 8.4: Significance of Effect**.

Table 8.4: Significance of Effect

Magnitude of Change	Sensitivity of Asset				
	High	**Medium**	**Low**	**Negligible**
High	Major	Major	Moderate	Negligible
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Minor	Negligible
Negligible	Negligible	Negligible	Negligible	Negligible

8.3.20 Major and Moderate effects are considered to be 'significant' in the context of the EIA Regulations; Minor and Negligible effects are considered to be 'not significant'.

8.3.21 Where a significant effect on the setting of a heritage asset is predicted as a result of change within its surroundings, using the approach outlined above, an assessment will be made as to whether that effect would result in a significant adverse effect on the integrity of its setting (NPF4 Policy 7). For the purposes of the assessment, the integrity of the setting will be considered to be maintained if the setting's contribution to the cultural significance of the monument, and its capacity to convey that significance to visitors, would not be compromised by the Proposed Development either alone or cumulatively.

Assessment Limitations

8.3.22 This assessment has been completed using data derived from HES's Spatial Warehouse and from the Angus HER, obtained in 2024 (see Section 8.3 for details). It is assumed that, at the time of the acquisition of the data, the information provided was accurate and up to date.

8.4 Baseline Conditions

Summary of Baseline

8.4.1 The heritage assets that have been identified in both the Inner Study Area and the Outer Study Area are shown respectively on:

- **Figure 8.1 Cultural Heritage: Inner Study Area**;
- **Figure 8.2 Designated Cultural Heritage: Outer Study Area (Bare-Earth ZTV)**;
- **Figure 8.3 Designated Cultural Heritage: Outer Study Area (With-Screening ZTV)**;
- **Appendix 8.1 Cultural Heritage Assets in the Inner Study Area**;
- **Appendix 8.2 Designated Cultural Heritage Assets in the Outer Study Area**; and
- **Appendix 8.3: Designated Heritage Assets within the Outer Study Area with Predicted 'with-screening' Visibility of the Proposed Development)**.

Inner Study Area

Designated Heritage Assets

8.4.2 There are no designated heritage assets (world heritage sites, scheduled monuments, listed buildings, inventory gardens and designed landscapes, inventory historic battlefields, or conservation areas) within the Inner Study Area.

Non-Designated Heritage Assets

8.4.3 Six non-designated heritage assets have been identified within the Inner Study Area; two within the Site (**Figure 8.1 Cultural Heritage: Inner Study Area**) and four adjacent to the principal construction haul route (see **Figure 12.1: Construction Access Inbound** and **Figure 12.2: Construction Access Outbound** for details on the principal construction haul route). Full descriptions and an assessment of their heritage sensitivity are provided in **Appendix 8.1 Cultural Heritage Assets in the Inner Study Area**.

The Site

8.4.4 The HER records one non-designated heritage asset within the Inner Study Area. This asset comprises a historical record of stone coffins (NO33NE17), recorded in the Old Statistical Records (1792) as having been found at Balkemback Farm during the late 18th century. The coffins, which were probably Bronze Age cist burials, are recorded to have contained both ashes and urns in which human remains were identified. It is not known if the cists themselves have been removed or whether the location of the cists is accurately recorded. There is consequently potential for other buried archaeological remains, of similar Bronze Age date, to survive. If any buried (human) remains survive, these would likely be of heritage value at a regional level and of at least **medium sensitivity**.

8.4.5 Field survey of the Site carried out in 2023 (Sneddon 2023) recorded extant evidence for 19th and 20th-century agricultural activity (HA01). These comprise several fragmentary drystone dykes forming field boundaries, which have since largely been superseded by modern fencing. The dykes survive in varying condition, ranging from upstanding walls of 1 m in height, with coping stones still present, to collapsed remains. A small modern clearance cairn (2.5 m diameter and 0.6 m high) was also recorded adjacent to a stone dyke in the north-eastern part of the Site. The cairn contained black plastic silage wrap and there were no signs that the clearance cairn overlay an earlier cairn. As the poorly preserved remains of post-medieval or modern agricultural activity the former field banks and clearance cairn are assessed as being of little heritage value and **negligible sensitivity**.

Proposed Construction Route

8.4.6 The HER records four non-designated heritage assets that lie in close proximity to the Proposed Construction Route (see **Figure 12.1: Construction Access Inbound** and **Figure 12.2: Construction Access Outbound**), these are:

- Linear and curvilinear cropmarks (NO33NE0024): a number of linear and curvilinear cropmarks are visible on aerial photographs in farmland immediately north of the Emmock Road and southwest of Emmock farm. The cropmarks primarily indicate indeterminate features, although some may represent part of an oval enclosure. The date of the

cropmark features is unknown; however, as the potential remains of a prehistoric or medieval enclosure and associated features, the cropmark site is assessed to be of local heritage value and low sensitivity.

- Tealing Airfield (NO43NW0051): this former military airfield was located between Kirkton of Tealing and Moatmill farm. The airfield operated as an advanced fighter training base and temporary prisoner of war camp during the latter part of the Second World War. As a former WW2 military site, including the surviving remains of personnel buildings, control tower and hangar huts (NO43NW0097) to the south-east side and around the perimeter of the airfield, and battlefield headquarters (NO43NW0107) standing on its east side, it is assessed as being of local heritage value and low sensitivity.
- Moatmill bridge (NO43NW0093): this bridge is recorded on the first Edition Ordnance Survey map and subsequent maps carrying a minor road over the Tealing Burn just south of Moatmill farm. As a minor historical landscape feature the bridge is assessed as being of local heritage value and low sensitivity.
- Findspot of a possible socket stone (NO43NW0062): the possible socket stone was discovered within the garden of Inveraldie Farm in 2004. The artefact has since been removed and the findspot has no intrinsic heritage value and is of negligible sensitivity.

Archaeological Potential of the Site

8.4.7 The Site is an area of improved arable farmland surrounded by further agricultural fields.

8.4.8 The HLA map categorises the current land use as Rectilinear Fields and Farms, which is described as comprising 'rectilinear field boundaries and associated farm steadings and other buildings are typical of agricultural improvements since the 1700s.' Recent amalgamation of these field is common.

8.4.9 Roy's 'Military Survey of Scotland' map (1747-55) depicts the location of the Proposed Development as open moorland. The Ordnance Survey first edition map (1862) depicts the Site as enclosed farmland. The land use of the Site remains the same on the second edition map (1862), and has changed relatively little since the 19th century.

8.4.10 The evidence from the desk-based assessment has shown that remains of likely early prehistoric (Bronze Age) burial cists (NO33NE0017) were previously discovered within the Site in the 18th century.

8.4.11 Evidence for prehistoric settlement and activity, within the landscape surrounding the Site, is attested by a number of prehistoric sites, both settlement and funerary remains recorded in the NHRE and HER. These include Balkemback Stone Circle (SM 2868), Balkello Standing Stone (SM 6145), Tealing Souterrains (SM 90299), four enclosures (NO33NE0022, NO33NE0023, NO33NE0025, and NO43NW0028) surviving as cropmarks visible on aerial photographs, and the recorded site of a bronze age hoard (NO33SW0004). The closest is the Wynton Wood ring ditch cropmark (NO33NE0023), located 400 m to the west of the Site.

8.4.12 Taking the identified baseline within the Inner Study Area and the archaeological context of the wider landscape into consideration, together with the historic and current land use, it is assessed that there is a medium to high potential for encountering hitherto undiscovered buried remains within the Site.

Geophysical Survey Potential of the Site

8.4.13 The Site comprises approximately 96 ha of arable farmland, with a general undulating topography ranging from 129 m to 160 m above sea level. A steep incline rises to the north-western corner of the Site.

The geology of the Site comprises one formation: the Dundee Flagstone Formation, which comprises sandstone, siltstone, and mudstone sedimentary bedrocks formed between 419.2 and 393.3 million years ago during the Devonian period. The response of mudstone and sandstone to magnetometer survey is variable, being average-to-poor (David et al. 2008, 15)[8]. Superficial deposits at the Site comprise sedimentary deposits of diamicton till, formed between 116 and 11.8 thousand years ago during the Quaternary period. Gaffney et al. (2002)[9] note that, in general terms, the sands which make up diamicton till, such as is present in the superficial deposits of the Site, can produce highly variable

[8] David A et al (2008) *Geophysical Survey in Archaeological Field Evaluation*. Swindon: Historic England.
[9] Gaffney C et al (2002) *The Use of Geophysical Techniques in Archaeological Evaluations*. Reading: University of Reading.

geophysical survey results due to bands of magnetic sands producing 'anomalies' similar to those indicating possible archaeology. It is therefore considered that the results of a geophysical survey of the Site could be adversely impacted by the Site geology, with the survey producing results which are inconclusive of subsurface archaeological remains.

Outer Study Area

8.4.14 There are nine scheduled monuments within the Outer Study Area. These include prehistoric settlement remains (SM 7059 and SM 90299), prehistoric funerary and ritual monuments (SM 2868, SM 6145, and SM 6562), a Pictish cross slab (SM 159), a 16th-century dovecot (SM 90298), and the industrial remains of a railway (SM 5967 and SM 6123). The closest of these scheduled monuments to the Site is the Neolithic stone circle at Balkemback Cottages (SM 2868), located 0.39 km to the northwest.

8.4.15 50 listed buildings are recorded in the Outer Study Area: two Category A listed, 27 Category B listed, and 21 Category C listed. The closest listed building to the Site is the Category C listed farmhouse of Balkemback Farm (LB 17449), which lies 0.1 km to the north of the Site. The closest of the Category A listed building is the South Balluderon Farmstead (LB 17458), which comprises stackyard walls, an implement shed, field trough, and walled mill dam. The farmstead is located 0.71 km to the northeast of the Site.

8.4.16 Overall, the majority of the listed buildings within the Outer Study Area are either small rural residences, such as farmhouses and cottages, or functional elements of the landscape, such as bridges and agricultural features. The settings of these designated assets are generally localised, with long-distance views or visual prominence not representing important aspects of the buildings' settings. Elsewhere, such as to the south of the Site, along the northern edge of Dundee, the settings of listed buildings like railway stations, churches, factories, townhouses, and a hospital, are primarily defined by the more enclosed townscape environment.

Future Baseline in the Absence of the Proposed Development

8.4.17 If the Proposed Development were not to proceed, there would likely be no change to the baseline condition of the various heritage assets that presently exist within the Inner Study Area. Current agricultural land-use would most likely continue, and there would be no change to the character of the heritage assets, other than the erosion of features through natural processes and agricultural activities.

8.4.18 Settlement is likely to continue to locally change the nature of the Outer Study Area, particularly given the Site's proximity to the city of Dundee, creating pressure for new housing. A number of small settlements are located in close proximity to each other, with potential future expansion of settlements, even if small in scale, likely to increase the presence of settlement in the east of the study area. Changes in farming and land management practices, driven by policy regimes or climate change, may affect the appearance of the agricultural landscape, for example the further proliferation of polytunnels.

Implications of Climate Change for Baseline Conditions

8.4.19 The summary of the relevant climate change projections using the UK Climate Change Projections 2018 (UKCP18) are:

- temperatures are projected to increase, particularly in summer;
- winter rainfall is projected to increase and summer rainfall is most likely to decrease;
- heavy rain days (rainfall greater than 25mm) are projected to increase, particularly in winter;
- near surface wind speeds are expected to increase in the second half of the 21st century with winter months experiencing more significant effects of winds; however, the increase in wind speeds is projected to be modest; and
- an increase in frequency of winter storms over the UK.

8.4.20 With regards to the heritage assets identified in the Inner and Outer Study Areas, it is not thought that there will be any significant environmental effects resulting from the predicted change in the future climate baseline. The potential effects identified can be summarised as follows:

- any remains present above or below ground, and which would remain in situ and undisturbed as a result of the Proposed Development, are unlikely to be negatively affected by the projected changes in ambient temperature, increased winter rainfall, or prolonged dry spells in summer; and
- one heritage asset identified as being potentially present below ground, and which may be affected by the construction of the Proposed Development, is considered in this assessment, with identified impacts subject to appropriate mitigation (see CH2 and CH5 in **Table 8.5: Applied Mitigation**). For this asset, the projected changes in ambient temperature, increased rainfall, or prolonged dry spells associated with potential future change will not require adoption of additional mitigation.

8.4.21 Based on the qualitative assessment above, in combination with professional judgement, there are likely to be no significant effects on cultural heritage assets within the Inner or Outer Study Areas from predicted changes to the future baseline. It is therefore not considered necessary to assess this issue further within the assessment.

8.5 Mitigation and Monitoring

8.5.1 NPF4 (2023) provides a mitigation hierarchy of avoidance, minimisation, restoration, and offsetting. Avoidance and minimisation measures can be achieved through design (e.g. embedded and applied mitigation), whilst compensatory measures offset effects that have not been avoided or minimised.

8.5.2 Historic Environment Policy for Scotland (HEPS) requires the recognition, care, and sustainable management of the historic environment, and the emphasis in Planning Advice Note (PAN) 2/2011: Planning and Archaeology (PAN2) is for the preservation of important remains in situ (where practicable) and by record where preservation is not possible.

8.5.3 The approach advocated above is inherent in the approach adopted to mitigation.

Embedded Mitigation

8.5.4 Topic specific embedded mitigation (mitigation achieved through design) is outlined below:

- *CH1: Proposed bunding and planting*. Landscaping and planting mitigation measures have been adopted to both provide close-proximity screening in all directions, and to integrate the Proposed Development into the wider agricultural landscape, including when beheld from longer distances. Several earthwork bunds are proposed to the north, east, south, and west of the substation platform, with proposed native woodland planting concentrated to the east, south, and west. Compensatory tree, hedgerow, and shrub planting is proposed more generally along the field boundaries of the Proposed Development, providing further screening and landscape integration.

Applied Mitigation

8.5.5 For its new infrastructure projects in recent years, the Applicant has developed and effectively implemented a suite of General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs) which prescribe good environmental management practices. In addition, the Applicant has developed a Consents and Environment Specification which prescribes environmental management principles which Contractors are required to meet under the terms of the Principal Contract. The Specification includes management plans that the Contractor is required to prepare and implement, including a Construction Environmental Management Plan (CEMP), and subsidiary plans on aspects such as ecological and ornithological management, construction noise management, construction transport management. In preparing these Plans, the Contractor will be required to incorporate any additional management measures identified through the EIA as necessary to avoid or reduce significant residual effects (i.e., "additional mitigation").

Table 8.5: Applied Mitigation

Mitigation Measure	Project Stage/Timing	Responsibility
CH2: Construction works will proceed in accordance with the measures outlined in the CEMP.	Construction	Principal Contractor

Mitigation Measure	Project Stage/Timing	Responsibility
CH3: Construction machinery will operate only within defined working areas and access corridors, limiting ground disturbance.	Construction	Principal Contractor
CH4: Should they be encountered, previously unidentified archaeological remains will be subject to a programme of archaeological works to be developed in consultation with ACAS and detailed in a Written Scheme of Investigation (WSI), and will be a requirement of the contract between the Applicant and the Principal Contractor. It is envisaged that the requirement for a WSI will be secured through a suitably worded planning condition.	Construction	Archaeological Contractor

Further Survey Requirements and Monitoring

8.5.6 No further survey or monitoring is required in relation to the potential effects on cultural heritage arising as a result of the Proposed Development.

8.6 Assessment of Likely Significant Effects - Construction

8.6.1 The assessment of effects is based on the project description as outlined in **Chapter 3: Description of the Proposed Development**. Unless otherwise stated, potential effects identified are considered to be adverse.

Predicted Construction Effects

8.6.2 Direct (physical) effects on heritage assets are most likely to arise from ground disturbing activities that occur during construction works, which may damage and possibly destroy cultural heritage remains. Direct impacts can also occur as result of above ground disturbance: for example, as a result of landscaping, vehicle movement over cultural heritage features, or from the storage of construction materials above them. Direct effects on heritage assets are normally adverse, permanent, and irreversible.

8.6.3 The Proposed Development has been designed to avoid impacts on heritage assets as far as possible (see Paragraphs 8.4.22 and 8.4.23 above). Six heritage assets have, however, been identified within the Inner Study Area, and it is assessed that there is potential, in the absence of additional mitigation, for construction works to result in direct impacts on the following assets:

- Balkemback Cottages Stone Coffins (NO33NE0017): any impact on any human remains associated with the previously recorded prehistoric burials could be of high magnitude (destruction of human remains). However, the adoption of Applied Mitigation (see **Table 8.5: Applied Mitigation (**CH4)) would ensure, among other things the preparation for agreement with Angus Council of a WSI, and its implementation during the construction works by an experienced archaeological contractor, thereby ensuring preservation by record of heritage assets impacted during construction so that any predicted residual effect, after Applied Mitigation, is minor.
- Balkemback Dry-Stone Dykes (HA01): The remains of drystone dykes forming field boundaries, of negligible sensitivity, are located throughout the Site. Construction of the Proposed Development would remove the drystone dykes and it is assessed that the direct effect would be of high magnitude, resulting in an adverse effect of **negligible** significance (not significant in EIA terms). No additional mitigation is required in respect of the predicted effect on these assets.
- Cropmark Site (NO33NE0024): any groundbreaking works for laybys adjacent to the cropmark site could potentially disturb any surviving buried archaeological remains in this area. Any groundbreaking works required for construction of the laybys would be kept to a minimal and the potential impact on the cropmark site is assessed as being of low magnitude, resulting in a potential adverse effect of **minor** significance (not significant in EIA terms). The implementation of a WSI, described above (see **Table 8.5: Applied Mitigation** (CH4)), would ensure preservation by record of heritage assets impacted during construction so that any predicted residual effect, after Applied Mitigation, is negligible.

8.6.4 In addition to the impacts identified above, there is the possibility that any ground-disturbing works in the areas required for construction of the Proposed Development could disturb or destroy any hitherto unrecorded, buried archaeological remains present within the Site. It has been assessed that there is a moderate to high potential for buried remains to survive within the Inner Study Area. Construction of the Proposed Development could, without mitigation, result in direct adverse impacts on any remains encountered. The implementation of a WSI described above (see **Table 8.5: Applied Mitigation** (CH4)), would ensure preservation by record of hitherto unrecorded buried remains impacted during construction, so that any predicted residual effect, after Applied Mitigation, is minor.

Residual Construction Effects

8.6.5 The adoption of embedded and applied mitigation measures set out above will avoid, minimise, or offset the loss of any archaeological and/or cultural heritage remains that may occur as a result of the construction of the Proposed Development. Taking this proposed mitigation into account, any residual effects arising from the construction of the Proposed Development in relation on heritage assets within the Inner Study Area would be of no more than **minor** magnitude.

8.7 Assessment of Likely Significant Effects - Operation

Predicted Operational Effects

8.7.1 The Proposed Development may result in adverse effects on the settings of heritage assets in the Outer Study Area. In particular, there is potential for elements of the Proposed Development (e.g. platform, bays, control buildings), or associated landscaping, to be present in views to and from scheduled monuments and listed buildings. Such effects are presumed permanent for the operational lifetime of the Proposed Development, these effects may be reversible upon decommissioning, if the Proposed Development is removed.

8.7.2 The assessment of operational effects on the settings of heritage assets has been carried out with reference to the layout of the Proposed Development as set out in **Figure 3.2: Landscape Zonal Plan** and location of heritage assets as shown on **Figure 8.2 Designated Cultural Heritage: Outer Study Area (Bare-Earth ZTV)** and **Figure 8.3 Designated Cultural Heritage: Outer Study Area (With-Screening)**. The criteria detailed in **Tables 8.2** to **8.4** have been used to assess the nature and magnitude of effects. This assessment is set out in summary form in **Appendix 8.2 Designated Cultural Heritage Assets in the Outer Study Area** and **Appendix 8.3 Designated Heritage Assets within the Outer Study Area with Predicted 'with-screening' Visibility of the Proposed Development)**.

8.7.3 Those heritage assets for inclusion as visualisations were identified from initial appraisal of the bare-earth ZTV, and visualisations were then agreed through consultation with HES and ACAS. A list of the visualisations included within the assessment is provided in **Table 8.6: Cultural Heritage Visualisation Viewpoints**, and reference to supporting visualisations is provided in **Appendix 8.3 Designated Heritage Assets within the Outer Study Area with Predicted 'with-screening' Visibility of the Proposed Development),** and as part of the following assessment, where applicable. The visualisations (photomontages) that inform the assessment are provided in **Figures 8.4** to **8.6** (see Table 8.6 below**)**.

8.7.4 In addition to the cultural heritage visualisations, cross refence is made to Landscape and Visual Amenity (LVIA) viewpoints (VPs) where appropriate.

Table 8.6: Cultural Heritage Visualisation Viewpoints

Fig Ref	Fig Title – Site Name (& Ref No)	Viewpoint Location
Figure 8.4: CH VP1)	Martin's Stone Cross Slab (SM 159)	From cross slab
Figure 8.5: CH VP2)	Balkemback Cottages Stone Circle (SM 2868)	From centre of stone circle
Figure 8.6: CH VP3)	Craig Hill, Fort and Broch (SM 3038)	From centre of broch which occupies the west and highest part of the scheduled area

8.7.5 Based on the with-screening ZTV (**Figure 8.3: Designated Cultural Heritage: Outer Study Area (With-Screening ZTV)**), which takes into account screening provided by woodland, buildings, and bunds, it is assessed that there is

potential for the Proposed Development to result in an operational impact on the setting of four scheduled monuments and 11 listed buildings (one Category A listed building, three Category B listed buildings and seven Category C listed buildings) (see **Appendix 8.3: Designated Cultural Heritage with Predicted 'with-screening' Visibility of the Proposed Development**).

8.7.6 The following discussion details the assessment findings for those assets where potentially significant adverse effects have been identified through the tabulated assessment, and where assets have been identified by HES as requiring detailed consideration even where the significance of the predicted effect is assessed as being not significant in EIA terms.

8.7.7 One additional heritage asset, the Craig Hill Fort and Broch (SM 3038), which is located beyond 3 km from the Proposed Development, has been identified through appraisal of the ZTVs as requiring consideration of potential impacts on its setting.

8.7.8 The assessment of all other heritage assets, for which non-significant effects have been identified, is discussed in Appendix 8.2 Designated Cultural Heritage Assets in the Outer Study Area and Appendix 8.3 Designated Heritage Assets within the Outer Study Area with Predicted 'with-screening' Visibility of the Proposed Development).

Martin's Stone Cross Slab (SM 159)

8.7.9 Martin's Stone (SM 159) is a Pictish red sandstone cross of which only the upright cross slab remains, measuring 2 m in height by around 0.7 m in width. The cross slab dates to the second half of the first century AD and retains carvings depicting both humanoid and monstrous figures deriving from a local legendary narrative. As the remains of a Pictish monument, Martin's Stone has the potential to provide information on first-century pictorial forms, rock art, and associated local legendary traditions. As a scheduled monument, the cross slab is of heritage value at the national level and of high sensitivity.

8.7.10 The cross slab stands within a small, railed enclosure towards the centre of an arable field, around 150 m to the west of the South Ballunderon to Wynton public road. The existing Westfield to Tealing 275kV OHL passes to the south side of the scheduled monument, running in a straight line from the west to the east, at its closest being 300 m away from the cross slab. Open views of the wider agricultural landscape can be gained from the scheduled monument in all directions. The cross slab is not a prominent feature in the surrounding landscape and is best appreciated at close distance. The key setting aspects contributing to the cultural significance of Martin's Stone relate foremost to the localised experience of the stone's features, best appreciated at close quarters.

8.7.11 The with-screening ZTV (**Figure 8.3 Designated Cultural Heritage: Outer Study Area (With-Screening ZTV)**) indicates that there would be theoretical visibility of the Proposed Development to the east c.900 m away. A photomontage visualisation from the cross slab (see **Figure 8.4a Cultural Heritage Viewpoint 1: Martin's Stone, Cross Slab (SM 159)**) shows that these views would be limited both by the topography of the landscape, sloping north to south, and the existing intervening tree-lined field boundaries and hedging. Further screening would be provided by the installation of earthwork bunds and planting of native woodland around the substation platform (see **Figure 3.1: Site General Arrangement**) as part of the landscape design for the Proposed Development (see **Figure 8.4b: Cultural Heritage Viewpoint 1: Martin's Stone Cross Slab** and **Figure 8.4c: Cultural Heritage Viewpoint 1: Martin's Stone Cross Slab**). As such, the Proposed Development would represent only a slight change to eastern views from the scheduled monument, and the Proposed Development would not be visible in any appreciable views of the cross slab itself. It would remain possible for any visitor to understand, appreciate, and experience the cross slab, its topographical location, and its wider landscape surroundings.

8.7.12 Overall, the impact of the Proposed Development on the setting of Martin's Stone Cross Slab is assessed, using the criteria in **Table 8.4: Significance of Effect**, as being one of negligible magnitude on those aspects of the setting of the cross slab that contribute to appreciation of its cultural significance, resulting in an adverse effect of **negligible** significance (not significant in EIA terms).

Balkemback Cottages Stone Circle (SM 2868)

8.7.13 This scheduled monument comprises the remains of a Neolithic stone circle, located in an area of arable farmland to the northwest of Dunian. The overall diameter of the stone circle measures 14 m, with four boulders, two of which are upstanding while the other two are recumbent. The upright stones measure between 1 m and 1.2 m in height. As the remains of a prehistoric stone circle, the scheduled monument has the potential to provide information on early prehistoric ritual practices. Balkemback Cottages Stone Circle is a scheduled monument of heritage value at the national level and of high sensitivity.

8.7.14 The stone circle is located on a gentle south-facing slope within an arable field. Open aspect views are gained from the stone circle in a southern arc, overlooking lower lying farmland. Rising topography and a coniferous shelterbelt to the north and northwest of the stone circle limit visibility in those directions. The stone circle is not a prominent feature in the landscape, best appreciated at close quarters and not visible from any distance. It is possible that this stone circle was sited to afford visibility of the wider landscape. The key setting aspects contributing to the cultural significance of Balkemback Stone Circle are its current farmland setting and the views obtained to the south and southwest over lower lying land.

8.7.15 The stone circle stands 400 m to the north of the Site. The bare-earth ZTV indicates that the Proposed Development would be theoretically visible to the southeast of the scheduled monument (**Figure 8.2 Designated Cultural Heritage Outer Study Area (Bare-Earth ZTV)**). The bare-earth ZTV does not, however, take account of screening provided by surrounding buildings and woodland. A photomontage visualisation from the stone circle (**Figure 8.5a: Cultural Heritage Viewpoint 2: Balkemback Cottage Stone Circle**) shows that visibility of the Proposed Development from the scheduled monument would be largely screened by existing intervening woodland that surrounds the residential property at Dunian. Further screening would be provided by the installation of earthwork bunds and planting of native woodland around the substation platform as part of the landscape design for the Proposed Development (see **Figure 8.5b: Cultural Heritage Viewpoint 2: Balkemback Cottages Stone Circle** and **Figure 8.5c: Cultural Heritage Viewpoint 2: Balkemback Cottages Stone Circle**). The substation platform and its associated electrical infrastructure would consequently be completely screened in south-eastern views from the scheduled monument by year 10 (**Figure 8.5c: Cultural Heritage Viewpoint 2: Balkemback Cottages Stone Circle**), while key views from the scheduled monument to the south and southwest would remain unaffected. It would remain possible for any visitor to appreciate the stone circle, its topographical location, and the views afforded from the stone circle to the wider surrounding landscape.

8.7.16 Overall, the impact of the Proposed Development on the setting of Balkemback Cottages Stone Circle, using the criteria in **Table 8.4: Significance of Effect**, is assessed as being one of negligible magnitude on those aspects of the setting of the stone circle that contribute to appreciation of its cultural significance, resulting in an adverse effect of **negligible** significance (not significant in EIA terms).

Craig Hill Fort and Broch (SM 3038)

8.7.17 This scheduled monument comprises the remains of a broch and fort of prehistoric date surviving partially as a series of grassed-over stone structures and earthworks, and partially as cropmarks visible on aerial photographs. The scheduled monument is situated on Craig Hill and immediately east of the Fithie Burn. As a complex example of a later prehistoric defended settlement, the scheduled monument has the potential to provide information on the nature and development of prehistoric fortified sites. As a scheduled monument, the fort and broch are of heritage value at the national level and of high sensitivity.

8.7.18 The broch and fort stand in a commanding and strategic location on the summit of Craig Hill overlooking the Fithie Burn, commanding views in all directions. The broch and fort would have been prominent from many vantage points in the surrounding landscape and their location provides a good vantage point from which to view the surrounding area. The key setting aspects contributing to the cultural significance of the scheduled monument are its topographical location, the extensive views that can be gained to the surrounding landscape, and its prominent visibility in the surrounding landscape.

8.7.19 The scheduled monument is located around 3.9 km to the southeast of the Proposed Development. A photomontage visualisation from the centre of the broch (**Figure 8.6a: Cultural Heritage Viewpoint 3: Craig Hill, Fort and Broch**) shows that the Proposed Development would be visible in views to the northwest, with the Proposed Development visible beyond the existing Tealing Substation and backclothed by rising topography. Further screening would be provided by the installation of earthwork bunds and planting of native woodland around the substation platform as part of the landscape design for the Proposed Development (see **Figure 8.6b: Cultural Heritage Viewpoint 3: Craig Hill, Fort and Broch** and **Figure 8.6c: Cultural Heritage Viewpoint 3: Craig Hill, Fort and Broch**), and the proposed landscaping would help integrate the Proposed Development within the wider agricultural landscape when viewed from Craig Hill. Although a new element within the wider landscape surrounding the scheduled monument, the Proposed Development would not result in a noticeable change to the current wider landscape setting of the monument. It would remain possible for any visitor to understand the broch and fort, their topographical location, and their landscape surroundings.

8.7.20 Overall, the impact of the Proposed Development on the setting of the fort and broch is assessed, using the criteria in **Table 8.4: Significance of Effect**, as being one of negligible magnitude on those aspects of the setting of Craig Hill Fort and Broch that contribute to appreciation of their cultural significance, resulting in an adverse effect of **negligible** significance (not significant in EIA terms).

South Balluderon Farm, Steading (LB 17458)

8.7.21 South Balluderon Farm steading comprises a series of 19th-century agricultural ranges arranged in a quadrangular plan with cattle courts, a threshing barn, and byre, which have remained unaltered since the 19th century. As a relatively rare example of an unaltered 19th-century farmstead, it has the potential to provide information on agricultural practices prior to the advent of modern farming. South Balluderon Farm Steading is a Category A listed building, and is of heritage value at the national level and of high sensitivity.

8.7.22 The steading is located immediately east of the Balkello to Wynton public road, and is flanked on its east side by an associated bothy and cottage, and to the south by South Balluderon Farmhouse and its associated walled garden. These surrounding buildings provide a sheltered and localised farmyard setting for the steading. The steading is open to the south with some glimpses of the surrounding farmland being gained from the steading; however, these views are generally limited by the immediate surrounding buildings and mature trees/vegetation. The key aspects of its setting, which contribute to the cultural significance of the farm steading, are its localised farmyard setting, its historic association with surrounding farm buildings and farmhouse, and the immediate agricultural landscape in which it is stands.

8.7.23 The Proposed Development would be located around 1 km to the east of South Balluderon Steading. The with-screening ZTV (**Figure 8.3 Designated Cultural Heritage Assets (With-Screening ZTV)**) indicates that visibility of the Proposed Development would be largely screened by surrounding buildings and trees/vegetation, although there would be some limited visibility of the substation platform from the eastern and south-eastern elevations of the steading. Further screening of the Proposed Development would be provided by the installation of earthwork bunds and planting of native woodland around the substation platform as part of the landscape strategy for the Proposed Development. It would remain possible for any visitor to understand the farmstead, its localised farmyard setting, and its association with surrounding agricultural buildings.

8.7.24 Overall, the impact of the Proposed Development on the setting of the farmstead is assessed, using the criteria in **Table 8.4: Significance of Effect**, as being one of negligible magnitude on those aspects of the setting of South Balluderon Farm Steading that contribute to appreciation of its cultural significance, resulting an adverse effect of **negligible** significance (not significant in EIA terms). The character, special architectural, and historic interest of the listed building would remain intact and undiminished.

Additional Mitigation

8.7.25 No additional mitigation is possible to offset the impact of the Proposed Development on the settings of these assets.

Residual Operational Effects

8.7.26 During its operational lifetime, the residual effect of the Proposed Development on the settings of the heritage assets in the Outer Study Area would be the same as the predicted impacts.

8.7.27 The assessment has found that any operational impacts resulting from the Proposed Development upon the settings of designated heritage assets in the surrounding landscape would be of no more than **minor** significance (not significant in EIA terms).

8.8 Assessment of Likely Significant Effects - Decommissioning

8.8.1 There are no heritage assets within the Site likely to receive a direct effect during decommissioning of the Proposed Development, as decommissioning works would use the as-built tracks and infrastructure to facilitate decommissioning.

8.8.2 Decommissioning of the Proposed Development would have a beneficial effect in that it would remove operational effects on the setting of heritage assets in the surrounding area.

8.9 Assessment of Likely Cumulative (In-Combination) Effects

Introduction

8.9.1 The assessment of cumulative effects on heritage assets is based upon consideration of the effects of the Proposed Development on the setting of statutory designations and non-statutory designations within 3 km of the Proposed Development, in addition to the likely effects of other developments that are either consented or proposed (at the application stage). Operational and under construction developments are considered to form part of the baseline setting and are addressed as such in the assessment of the Proposed Development.

8.9.2 The assessment takes into account the relative scale of the identified developments, their distance from the affected assets, and the potential degree of visibility of the various developments from the heritage assets under consideration. The relevant cumulative developments, as agreed with consultees, for consideration in the EIA are listed in **Appendix 5.1: Cumulative Developments**.

8.9.3 **Table 8.7: Cumulative Assessment: Associated SSEN Transmission Developments** provides a cumulative assessment of the Proposed Development with the Associated SSEN Transmission Developments defined in Chapter 1: Introduction & Background and detailed in Appendix 5.1: Cumulative Developments.

8.9.4 **Table 8.8: Cumulative Assessment: Other Projects** provides a cumulative assessment of the Proposed Development with other reasonable foreseeable SSEN Transmission and 3rd party developments detailed in **Appendix 5.1: Cumulative Developments**.

Table 8.7: Cumulative Assessment: Associated SSEN Transmission Developments

	Construction		Operation
	Impacts upon buried archaeological remains	**Impacts upon upstanding cultural heritage remains**	**Impacts upon the settings of designated heritage assets**
Kintore to Tealing 400 kV OHL	The Proposed Development has the potential to result in a significant effect on any buried archaeological remains that may survive within the Inner Study Area, including the Balkemback Cottage Stone Coffins (NO33NE17) (see Section 8.5). Following the implementation of the Applied Mitigation (the requirement to agree and implement a WSI), buried archaeological remains within the Inner Study Area will have been investigated and, if necessary, excavated and recorded in detail, ensuring preservation by record of the heritage assets. With the information available at this stage, and given the limited land take required for the Kintore to Tealing 400 kV OHL, it is predicted that there would be limited direct impact on any buried archaeology that may survive within its footprint. Accordingly, the cumulative effect of the Proposed Development with the Kintore to Tealing 400 kV OHL on buried archaeological remains will not be significant.	The Proposed Development is not predicted to result in a significant direct (construction) impact upon upstanding archaeological remains, drystone dykes (HA01), that survive within the Inner Study Area (see Section 8.5). Given the limited land take required for the Kintore to Tealing 400 kV OHL, it is predicted that there would be limited direct impact on small sections of the drystone dykes during construction. It is therefore concluded that the cumulative effect would only result in a potential direct impact to small sections of the drystone dykes, and the cumulative impact would therefore not be significant.	It has been concluded that there will be no significant adverse effects on the settings of heritage assets within the Outer Study Area from the introduction of the Proposed Development (see Section 8.6 and **Appendix 8.2: Designated Heritage Assets within the Outer Study Area** and **Appendix 8.3: Designated Heritage Assets in the Outer Study Area 'with-screening' Visibility of the Proposed Development**). With the information available at this stage, the Kintore to Tealing 400 kV OHL project has the potential to result in a significant adverse impact on the setting of one scheduled monument within the Outer Study Area, Balkemback Cottage Stone Circle (SM 2868), resulting from the introduction of proposed towers in close proximity to the scheduled monument. Screening provided by existing woodland and landscaping/woodland planting proposed as part of the landscape design for the Proposed Development, would largely, if not completely, screen views of the Proposed Development from Balkemback Stone Circle (SM 2868). Taking this into account, it is assessed that there would be no predicted cumulative effect on the setting of the stone circle from the Proposed Development in combination with the Kintore to Tealing 400 kV OHL, and any cumulative significant effect will be no greater than the Kintore to Tealing 400 kV OHL in isolation.
Alyth to Tealing 275 kV OHL tie-in	As Above	As Above	It is assessed that there will be no significant adverse effects on the settings of heritage assets within the Outer Study Area from the introduction of the Proposed Development (see Section 8.6 and **Appendix 8.2: Designated Heritage Assets within the Outer Study Area** and **Appendix 8.3: Designated Heritage Assets in the Outer Study Area 'with-screening' Visibility of the Proposed Development**). With the information available at present, it is considered that the Alyth to Tealing 275 kV OHL is likely to have an adverse impact on the setting of scheduled monuments that lie closest to the Proposed Development, Balkemback Cottages Stone Circle (SM 2868) and St Martin's Stone Cross Slab (SM 159), as the 275 kV would cross farmland that forms part of the wider setting for these assets and could

	Construction		Operation
	Impacts upon buried archaeological remains	**Impacts upon upstanding cultural heritage remains**	**Impacts upon the settings of designated heritage assets**
			intrude into views from the monuments across surrounding farmland. The potential impact of the Alyth to Tealing 275 kV OHL on the setting of these assets is, however, considered unlikely to be significantly adverse and is not likely to result in significant impacts on the settings of any designated heritage assets within the Outer Study Area. Overall, it is assessed that the cumulative effect of the addition of the Proposed Development to, and in combination with, the Alyth to Tealing 275 kV OHL tie-in on the settings of heritage assets within the Outer Study Area would not be significant.
Westfield to Tealing 275 kV OHL tie-in	As Above	As Above	It is assessed that there will be no significant adverse effects on the settings of heritage assets within the Outer Study Area from the introduction of the Proposed Development (Section 8.6 and **Appendix 8.2: Designated Heritage Assets within the Outer Study Area** and **Appendix 8.3: Designated Heritage Assets in the Outer Study Area 'with-screening' Visibility of the Proposed Development**). With the information available at present, it is considered that the Westfield to Emmock 275 kV OHL tie-in is unlikely to have adverse impacts on the settings of designated heritage assets within the Outer Study Area. A short new section of OHL would be installed with the erection of two new steel lattice towers to divert the existing OHL into the Proposed Development. The addition of the proposed new steel lattice towers to the existing electricity infrastructure would result in no more than a slight change to the character of the landscape surrounding the designated heritage assets within the Outer Study Area. Overall, it is assessed that the cumulative effect of the addition of the Proposed Development to, and in combination with, the Westfield to Tealing 275 kV OHL tie-in on the setting of heritage assets within the Outer Study Area would be not significant.
2 x 275 kV OHL tie-backs between Emmock and Tealing	As Above	As Above	It is assessed that there will be no significant adverse effects on the settings of heritage assets within the Outer Study Area from the introduction of the Proposed Development (Section 8.6 and **Appendix 8.2: Designated Heritage Assets within the Outer Study Area** and **Appendix 8.3: Designated Heritage Assets in the Outer Study Area 'with-screening' Visibility of the Proposed Development**). With the information available at present, it is considered that the Emmock and Tealing 275 kV OHL tie backs are unlikely to have

	Construction		Operation
	Impacts upon buried archaeological remains	Impacts upon upstanding cultural heritage remains	Impacts upon the settings of designated heritage assets
			adverse impacts on the setting of designated heritage assets within the Outer Study Area. Two new short sections of parallel 275 kV OHL would be installed between the Proposed Development and the existing Tealing Substation. The addition of the proposed new steel lattice towers to the existing electricity infrastructure would result in no more than a slight change to the character of the landscape surrounding the designated heritage assets within the Outer Study Area. Overall, it is assessed that the cumulative effect of the addition of the Proposed Development to, and in combination with, the Westfield to Tealing 275 kV OHL tie-in on the setting of heritage assets within the Outer Study Area would be not significant.
Summary	The cumulative effects from the Proposed Development in combination with other Associated SSEN Transmission Developments are not predicted to be significant.		The cumulative effects during operation of the Proposed Development in combination with Associated SSEN Transmission Developments are not predicted to be significant.

Table 8.8: Cumulative Assessment: Other Developments

	Construction		Operation
	Impacts upon buried archaeological remains	Impacts upon upstanding cultural heritage remains	Impacts upon the settings of designated heritage assets
400 kV upgrade of the existing Alyth to Tealing OHL	The Proposed Development has the potential to result in a significant effect on any buried archaeological remains that may survive within the Inner Study Area, including the Balkemback Cottage Stone Coffins (NO33NE17) (see Section 8.5) The upgrade project involves reconductoring of the OHL between the existing towers. No new towers will require to be erected as part of the proposed works and there will be no requirement for any groundbreaking works. Therefore, there are no predicted direct effects on buried archaeological remains from the upgrade of the existing Alyth to Tealing OHL.	The Proposed Development is not predicted to result in a significant direct (construction) impact upon upstanding archaeological remains, drystone dykes (HA01), that survive within the Inner Study Area (see Section 8.5). The upgrade project involves the reconductoring of the OHL between the towers. No new towers will require to be erected as part of the proposed works and there will be no requirement for any groundbreaking works. Therefore, there are no predicted direct effects on heritage assets within the	It is assessed that there will be no significant adverse effects on the settings of heritage assets within the Outer Study Area from the introduction of the Proposed Development (Section 8.6 and **Appendix 8.2: Designated Heritage Assets within the Outer Study Area** and **Appendix 8.3: Designated Heritage Assets in the Outer Study Area 'with-screening' Visibility of the Proposed Development**). The upgrade project involves the reconductoring of the OHL between towers, and no new towers will require to be erected as part of the proposed works. Accordingly, there is no cumulative effect.

	Construction		Operation
	Impacts upon buried archaeological remains	**Impacts upon upstanding cultural heritage remains**	**Impacts upon the settings of designated heritage assets**
	Accordingly, there is no cumulative effect.	Inner Study Area from the upgrade of the existing Alyth to Tealing Ohl. Accordingly, there is no cumulative effect.	
400 kV upgrade of the existing Tealing to Westfield OHL	As Above	As Above	As Above
Fithie Energy Park	The Proposed Development has the potential to result in significant effects on any buried archaeological remains that may survive within the Inner Study Area, including the Balkemback Cottage Stone Coffins (NO33NE17) (see Section 8.5) The proposed Fithie Energy Park does not lie in, or extend into, the Proposed Development Site, and the construction of the Fifthie Energy Park would not affect any of the buried archaeological remains within the Inner Study Area. Accordingly, there is no cumulative effect.	The Proposed Development is not predicted to result in a significant direct (construction) impact upon upstanding archaeological remains, drystone dykes (HA01), that survive within the Inner Study Area (see Section 8.5). The proposed Fithie Energy Park does not lie in, or extend into, the Proposed Development Site. and the construction of the Fithie Energy Park would not affect any of the heritage assets identified within the Inner Study Area. Accordingly, there is no cumulative effect.	It assessed that there will be no significant adverse effects on the settings of heritage assets within the Outer Study Area from the introduction of the Proposed Development (see Section 8.6 and **Appendix 8.2: Designated Heritage Assets within the Outer Study Area** and **Appendix 8.3: Designated Heritage Assets in the Outer Study Area with-screening Visibility of the Proposed Development**). With the information available at present, it is considered that the Fithie Energy Park is unlikely to have an adverse impact on the setting of the designated heritage assets within the Outer Study Area. Screening provided by existing woodland/shelterbelts would likely partially screen views of the proposed development from the designated heritage assets within the Outer Study Area. It is assumed that further screening of the Fithie Energy Park would be provided through design mitigation, including landscaping proposals (such as tree planting), which would further reduce visibility of the proposed development from designated heritage assets that lie in close proximity. Overall, it is assessed that the cumulative effect of the addition of the Proposed Development to, and in combination with, the Fithie Energy Park on the setting of heritage assets within the Outer Study Area would be not significant.
Balnuith BESS	As Above	As Above	It is assessed that there will be no significant adverse effects on the settings of heritage assets within the Outer Study Area from the introduction of the Proposed Development (Section 8.6 and **Appendix 8.2: Designated Heritage Assets within the Outer Study Area** and **Appendix 8.3: Designated Heritage Assets in the Outer Study Area with-screening Visibility of the Proposed Development**).

	Construction		Operation
	Impacts upon buried archaeological remains	**Impacts upon upstanding cultural heritage remains**	**Impacts upon the settings of designated heritage assets**
			With the information available at present, it is considered that the Balnuith BESS is unlikely to have an adverse impact on the setting of designated heritage assets within the Outer Study Area. Given the relatively small scale of the proposed battery storage compound, it would be a minor additional feature in the wider landscape surrounding the designated heritage assets. Existing woodland/shelterbelts is likely to largely screen views of the development from many of the heritage assets within the Outer Study. It is assumed that further screening of the Balnuith BESS would be provided through design mitigation, including landscaping proposals (such as tree planting) which would further reduce visibility of the BESS from designated heritage assets that lie in close proximity. Overall, it is assessed that the cumulative effect of the addition of the Proposed Development to, and in combination with, the Balnuith BESS on the setting of heritage assets within the Outer Study Area would be not significant.
Myreton BESS	As Above	As Above	It is assessed that there will be no significant adverse effects on the settings of heritage assets within the Outer Study Area from the introduction of the Proposed Development (see Section 8.6 and **Appendix 8.2: Designated Heritage Assets within the Outer Study Area** and **Appendix 8.3: Designated Heritage Assets in the Outer Study Area ‘with-screening’ Visibility of the Proposed Development**). With the information available at present, it is considered that the Myreton BESS is unlikely to have an adverse impact on the setting of designated heritage assets within the Outer Study Area. Given the relatively small scale of the proposed battery storage compound it would be a minor additional feature in the wider landscape surrounding the designated heritage assets. It is likely that the BESS would be largely screened from many of the heritage assets within the Outer Study Area by the existing Tealing Substation, and where visible the BESS would be seen together with the existing substation, resulting in only a slight change in these views. It is assumed that further screening of the Myreton BESS would be provided through design mitigation, including landscaping proposals (such as tree planting) which would further reduce visibility of the BESS from designated heritage assets that lie in close proximity

	Construction		Operation
	Impacts upon buried archaeological remains	**Impacts upon upstanding cultural heritage remains**	**Impacts upon the settings of designated heritage assets**
			Overall, it is assessed that the cumulative effect of the addition of the Proposed Development to, and in combination with, the Myreton BESS on the setting of heritage assets within the Outer Study Area would be not significant.
Summary	The cumulative effects from the Proposed Development in combination with Other Developments are not predicted to be significant.		The cumulative effects during operation of the Proposed Development in combination with Other Developments are not predicted to be significant.

8.10 Summary of Significant Effects

8.10.1 **Table 8.9: Summary of Significant Effects** below summarises the predicted significant effects of the Emmock 400 kV substation project on cultural heritage prior to and following to application of additional mitigation.

Table 8.9: Summary of Significant Effects

Predicted Effects	Significance Prior to Additional Mitigation	Mitigation	Significance of Residual Effects Following Additional Mitigation
Construction			
Potential direct impact on any buried archaeological remains of prehistoric cist burials (NO33NE0017).	Major	Archaeological planning condition. The scope of works would be agreed through consultation with ACAS and detailed in a WSI.	Minor
Potential direct impact on any hitherto unknown archaeological remains. It is assessed that there is a moderate to high potential for as yet undetected, buried archaeological remains to survive within the site.	Major	Archaeological planning condition. The scope of works would be agreed through consultation with ACAS and detailed in a WSI.	Minor